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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP				
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BOSTON, MA 02109				
EXAMINER				
ALEJANDRO, RAYMOND				
ART UNIT		PAPER NUMBER		
1745				

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,106

Applicant(s)

SCHOLTEN ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 11 and 14-19 is/are rejected.
- 7) ☒ Claim(s) 5-7, 9, 10, 12, 13 and 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

This action is in reply to amendment dated 01/16/04. The applicants have overcome the objections and the 35 USC 112 rejection. However, the claims are finally rejected as the 35 USC 102 rejection still stands for the reasons of record.

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4, 8 and 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by the Australian publication AU 9724945.

With respect to claims 1-4 and 19:

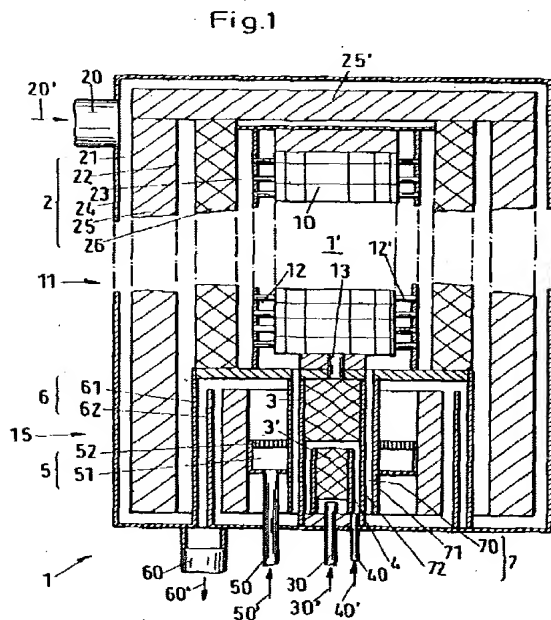
The AU'945 publication discloses an apparatus 1 comprising a cell block 1' with fuel cells 10, a heating insulating jacket 2, an afterburner chamber 12 between the jacket and the cell block, a prereformer 3 (the fuel processor) for combustion gas 39' and an auxiliary heat source (ABSTRACT/CLAIM 9). The apparatus further comprises a first and second heat exchangers 6 and 7 for the preheating of air 20' and for preheating the prereformer respectively (ABSTRACT/CLAIM 9). During start up phase, air which is fed into the apparatus is preheated in the first heat exchanger 6 by means of a mixture formed of hot combustion gas and exhaust air 120' with the mixture being conducted separately from the air (ABSTRACT/CLAIM 9). In the second heat exchanger the prereformer is heated to the operating temperature with the hot combustion gas (ABSTRACT/CLAIM 9). The apparatus also comprises an internal or external auxiliary burner

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5, 9 (CLAIM 9). It is disclosed that the energy for heating the prereformer 3 is supplied by the auxiliary burner 5, and the combustion gas 50" heats up the second heat exchanger 7 and thereafter, the combustion gas is also mixed with exhaust air 120' from the cell block 1' (page 4, line 33 to page 5, line 15).

Regarding claim 8:

Figure 1 below shows fuel cell 10 wherein the fuel cell has the specific inlet features connecting the fuel cell and the reformer, and for supplying air; and the specific outlet features for discharging both the unburned gas and the unused air therefrom.



As for claims 14-17:

It is disclosed that the apparatus shown in Figure 4 has, additionally, the burner 9, a heat exchanger 95 and a heat consumer 99, wherein gas 30" is burned with air 20" in the burner 9 to form the combustion gas 90" (page 7, lines 23-32). It is also disclosed that by using the member 90, the combustion gas 90" can be selectively supplied to the heat exchanger 95 or to the

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apparatus per se (page 7, line 32 to page 8, line 5) *Thus, this arrangement forms the central heating circuit.*

As to claim 18:

It is disclosed that the apparatus comprises a jacket chamber serving as a vaporizer for water 40' and its supply line 40 (page 4, lines 7-20/ Figure 2).

Thus, the claims are anticipated.

Allowable Subject Matter

3. The following is a statement of reasons for the indication of allowable subject matter: a reasonable search for the prior art failed to reveal or fairly suggest what is instantly claimed, particularly: the specific afterburner separate inlet as recited in claim 5 or 21; the specific waste gas burner inlets as recited in claim 6 or 21; and the specific controllable bypass connection as recited in claim 12.

4. Claims 5-7, 9-13 and 20-24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed 01/16/01 have been fully considered but they are not persuasive. The main contention of applicants' arguments is premised on the assertion that the prior art of record fails to teach the specific spatial orientation of the first heat exchanger and the second heat exchanger, that is, i) the first heat exchanger exchanging heat between the

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combustion path and the first heating circuit including a fuel cell, and ii) the second heat exchanger exchanging heat between the combustion path and the second heating circuit which includes a fuel processor. However, this assertion is courteously disagreed with because (*as admitted by the applicants, see amendment, page 13, last paragraph to page 14, bridging paragraph*) the Australian'945 publication reveals a combustion path 30', 120'' and an air supply path 20' wherein a first heat exchanger B is provided for exchanging heat between the combustion path 120'' and the air supply path 20'; additionally, a second heat exchanger 7 is provided for exchanging heat between the combustion path 120'' and the prereformer 3. Given that, the examiner wishes to contend that the first heat exchanger provided to exchange heat between the combustion path 120'' and air supply 20' represents the first heating circuit in which the fuel cell is included as instantly claimed in claim 1, and because the air supply 20' is fed into the fuel cell, it thus believed that somehow the first heat exchanger is in heat communication with the fuel cell per se. Since the claim language simply stipulates the inclusion of a fuel cell in the first heating circuit (that is, no specific structural orientation is required) and fails to further set forth whether the first heat exchanger is in direct (straight or express) or indirect (not direct) heat transfer communication with the fuel cell, it is asserted that the prior art provides the necessary spatial orientation or interrelationship to satisfy the claimed requirement.

6. With respect to the spatial orientation of the second heating circuit, as mentioned above, the Australian'945 publication employs a second heat exchanger provided for exchanging heat between the combustion path 120'' and the prereformer 3. Accordingly, it is noted that the preceding heat exchange feature corresponds to the second heating circuit in which the fuel processor is included as instantly claimed in claim 1 because the pre-reformer per se is also

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considered a component of the fuel processor which is useful for converting raw fuel into a reformed reactant stream, that is, the pre-reformer is an elemental part of the fuel processor unit. All over again, in view of the fact that the claim language simply stipulates the inclusion of a fuel processor in the second heating circuit (that is, without specifically defining the fuel processor feature i.e. a catalytic reformer, partial-oxidation reformer, or oxidizing burner), does not provide specific structural orientation and fails to further set forth whether the second heat exchanger is in direct (straight or express) or indirect (not direct) heat transfer communication with the fuel processor, it is emphasized that the prior art, yet again, imparts the necessary spatial orientation or interrelationship to satisfy the intended scope of the invention.

7. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "*a separate second heating circuit*") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). That is to say, the instant claim language is silent with respect to whether the first and second heating circuits are either integrally formed, separated or partly integrated.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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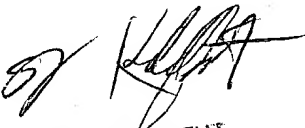
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Raymond Alejandro
Examiner
Art Unit 1745


STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1700